The effect of immigrants on American labor market outcomes

Presentation of Research Proposal

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Research Question

- Identify the effect of immigrants on American labor market outcomes
  - Hypothesis: inflow of immigrants (presumably less-educated) might decrease the wage and employment of less-skilled American workers
- Capture heterogeneous effect on different subgroups of American workers

Previous Literature

- LaLonde, Robert J., and Robert H. Topel. "Immigrants in the American labor market: Quality, assimilation, and distributional effects." The American economic review 81, no. 2 (1991): 297-302.
    - Policy concerns were raised in 1980s when there was substantial inflow of immigrants. The empirical results showed that these immigrants assimilate rapidly and have insignificant/trivial effect on the non-immigrants (wage, unemployment). The long-term earning potential of the immigrants will be much like their ethnically similar natives.

Previous Literature

- Foged, Mette, and Giovanni Peri. "Immigrants' effect on native workers: New analysis on longitudinal data." American Economic Journal: Applied Economics 8, no. 2 (2016): 1-34.
  - An increase in the supply of refugee-country immigrants pushed less educated native workers to pursue less manual-intensive occupations, hence the wages for low-skilled natives are increased.

Motivation

- Why is it interesting to study?
- Donald Trump announced his reform in immigration policy
  1. Build "wall" against Mexico immigrants: increase fees for worker visa from Mexico
  2. Enforcement of immigration law: triple the number of ICE officers, return of all criminal aliens, enhanced penalties for overstaying a visa
  3. Put American workers first: increase barriers for H1-B visa, the termination of J-1 visa.

Data

- Dataset: IPUMS-USA 2001-2016
- Exogenous policy shock: George W. Bush signed the Secure Fence Act of 2006
  - Build a wall of hundreds of miles of additional fencing along the Southern border (reported completion in 2015)
  - Authorize vehicle barriers, checkpoints and advanced technology to prevent people from entering illegally

Model Setup: Conventional D-in-D model

- Difference-in-difference model

$$y_{ist} = \gamma_s + \lambda_t + \delta D + \beta X_{ist} + \epsilon_{ist} \tag{1}$$

  where y_{ist} is the labor market outcomes including wage and employment status. D is a dummy variable indicating the policy shock, and X_{ist} is a set of covariates (demographic characteristics: age, marital status, education attainment and occupation etc.).
- δ is the ATE (average treatment effect) of a tightened immigration policy on the labor market outcomes.

Model Setup: Spline Regression

- Question: does the policy have the same effect on different subgroups of American labor force?
- Hypothesis
  - heterogeneous effect on labor force with different education attainment
  - Spline Regression

$$y_{ist} = \gamma_s + \lambda_t + \delta D + \beta X_{ist} + \theta b(edu_{ist}, \kappa) + \epsilon_{ist} \tag{2}$$

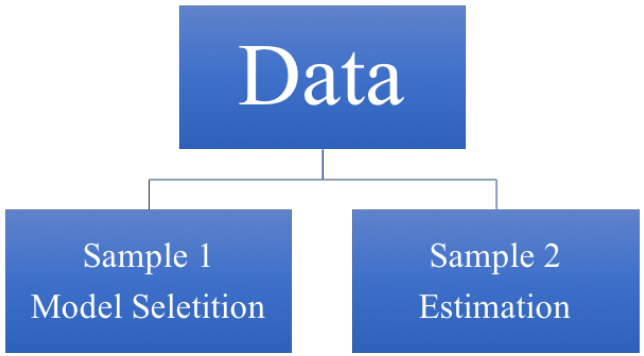
where $b(edu_{ist}, \kappa)$ is the basis of spline.

Model Setup: 'honest approach'

- Susan Athey: combine supervised machine learning techniques to estimate more precisely average treatment effects in different subpopulations
- Two-step
  - Model selection: find the partition using regression tree method
  - Estimation: estimate treatment effects within leaves of the tree
  - Use different samples in the two steps so the estimation is unbiased

Honest Approach: Flow Chart

- Sample-splitting



- Expected result of regression tree